AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A bi-directional transceiver module based on a silicon optical bench, comprising:

an optical fiber for transmitting optical signals;

at least a laser diode for emitting optical output signals of a specific wavelength, said optical output signals being transmitted ~~transferred~~ through said optical fiber;

at least a signal detector for receiving optical input signals of a specific wavelength from said optical fiber;

at least a thin film filter placed between said laser diode or said signal detector and said optical fiber, for reflecting or inserting said optical input or output signals of a specific wavelength in order to change the light transmission path of said optical signals;

at least an optical lens placed between said laser diode and said optical fiber for improving mode of optical field and light coupling efficiency between said laser diode and said optical fiber;

a groove for guiding said optical output ~~signal~~ signals in a first transmission path to said optical fiber, or guiding said optical input ~~signal~~ signals in a second transmission path to said signal detector, said first and second transmission paths being split by said thin film filter and perpendicular to each other on a same plane within said groove; and

a silicon optical bench made of a silicon wafer, said silicon optical bench integrating said optical fiber, said laser diode, said signal detector, said thin film filter, said optical lens and said groove into a module using a packaging;

wherein said groove has a slanted bottom surface for reflecting said optical input signals upward in a third transmission path perpendicular to said first and second transmission paths, and said signal detector is positioned above said slanted bottom surface with a receiving surface facing downward for receiving said optical input signals.

2. (Original) The module as claimed in Claim 1, wherein said packaging is a passive alignment packaging.

3. (Original) The module as claimed in Claim 1, wherein said optical lens is a straight-cut flat-tip optical fiber.

4. (Original) The module as claimed in Claim 1, wherein said optical lens is a slant-cut flat-tip optical fiber.

5. (Original) The module as claimed in Claim 1, wherein said optical lens is a conic optical fiber lens.

6. (Original) The module as claimed in Claim 1, wherein said optical lens is an arch optical fiber lens.

7. (Original) The module as claimed in Claim 1, wherein said optical lens is a thermally-diffusion expand core fiber lens.

8. (Original) The module as claimed in Claim 1, wherein said optical lens is a gradient index lens.

9. (Currently Amended) The module as claimed in ~~Claimb1~~ Claim 1, wherein said optical lens is a ball lens.

10. (Original) The module as claimed in Claim 1, wherein said optical lens is an aspheric lens.

11-12. (Cancelled).

13. (Currently Amended) The module as claimed in Claim 1, wherein said slanted bottom surface of said groove ~~slant surface at the bottom of said groove near said signal detector~~ is coated with a thin film of highly reflective metal.

14. (Original) The module as claimed in Claim 1, wherein said groove is a V-shaped groove.

15. (Original) The module as claimed in Claim 1, wherein said groove is a V-shaped groove with flat bottom.

16[[,]]. (Currently Amended) The module as claimed in Claim 1, wherein said groove is a U-shaped groove.

17. (Original) The module as claimed in Claim 1, wherein said groove is a U-shaped groove with flat bottom.

18. (Original) The module as claimed in Claim 1, wherein said groove is a necktie-shaped groove.